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December 1, 2016

Ms. Marlene H. Dortch

Secretary Federal Communications Commission
445 12th Street, SW Washington, DC 20554
December 1, 2016

Ex Parte Filing of Catherine J.K. Sandoval, Commissioner, California Public Utilities Commission, in her individual capacity as a Commissioner, In the Matters of Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications, and The Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers, PS Docket No. 15-80, ET Docket 04-35, PS Docket 11-82

Dear Ms. Dortch:

Catherine J.K. Sandoval, in her individual capacity as a Commissioner of the California Public Utilities Commission (CPUC), files this *ex parte* comment in the above-captioned proceedings. These comments do not represent the official position of the CPUC, but reflect Commissioner Sandoval's comments provided in her individual capacity as a CPUC Commissioner in response to the questions in the above docket. The CPUC's Comments in these dockets were filed on August 26, 2016.

At the invitation of FCC Homeland Security Director David Simpson, Commissioner Sandoval, and her Telecommunications Advisor, Dr. Bill Johnston, on November 9, 2016 discussed by telephone with Admiral Simpson, Joseph Schlingbaum , Theodore Marcus, Jeffery Goldthorp, Lisa Fowlkes, and Andi Roane for approximately 45 minutes the FNPRM in the above docket regarding the outage reporting rules stemming from 47 C.F.R. Pt. 4. Please excuse the late filing of this *ex parte* due to personnel resource issues.

In the Outage Reporting FNPRM, the FCC sought comment on its proposal to amend the part 4 reporting requirements to include wireless outages affecting rural areas. The FCC's FNPRM recognizes that the NORS reporting threshold of 900,000 user minutes does not capture some outages, particularly in rural areas. Additionally, NORS reporting requirements for OC3 (transport) outages may not reflect the number of voice and data end-users affected downstream by that transport outage.

Data gaps about communications outages compromise the ability of California's public safety personnel to respond to emergencies including those where *the communications outage is the emergency*. These data gaps undermine the fulfillment of the CPUC's duty to ensure that carriers provide safe and reliable service to all Californians, CA PU Code 451, and the FCC's mission to ensure reliable communications service for all Americans.

California counties Mendocino, Humboldt, and Del Norte experienced several large-scale voice and data outages in 2014 and 2015, each driven by a single cut in communications transport facilities. Each fiber cut resulted in thousands, in some cases tens of thousands, of landline, wireless, and Internet users losing services. Transport outages do not respect census block, city, or county lines. Like a cascading electrical outage as interconnected systems fail, a single point of failure in the transport backhaul in Mendocino County on September 3, 2015 led to outages of multiple communications services across several counties that depend on that backhaul.

Mendocino County Sheriff Allman estimates that 17,000 people and businesses lost communications service on August 3, 2014 due to a hit-and-run accident in rural western Mendocino County that caused a communications transport outage. California State service quality measurements under General Order 133-D are triggered by carrier response to out-of-service customer repair tickets. The Proposed Decision (PD) in the CPUC's Order Instituting Investigation (OII) on Rural Call Completion, (OII 14-05-012) [hereinafter *CPUC Call Completion and Call Access OII*] reported that the CPUC's Communications Division found no spike in repair tickets during the August 3, 2014 Mendocino County transport outage. It's hard for consumers to report their phone is out when their phone is out. This is especially true when their landline, wireless phone, and Internet are all out due to a transport outage.

A carrier may file one repair ticket for a transport or OC3 outage, and not file repair tickets for the hundreds, thousands, or tens of thousands of downstream customers affected by that transport outage. Repair ticket-based reporting systems do not capture the full effect of a transport outage. OC3 NORS reports detail neither a backhaul carriers' retail customer outages, nor outages experienced by wholesale

customers and their customers. If the transport outage does not also trigger the 900,000 user minute NORS reporting threshold, the effect and scale of an OC3 transport outage is masked by current NORS reporting practices.

Public Safety officials must make immediate decisions during communications outages, often without accurate information. The State of California has adopted by law a State Emergency Management System (SEMS) to delegate responsibility to field commanders, cities, counties, regional coordinators, or the state for incident command, emergency management, communication, and coordination commensurate with the level of emergency. California Code of Regulations (CCR) Title 19, § 2401. Public Safety Answering Points (PSAPs) handle individual emergency calls, while SEMS coordinates "emergency response to incidents that exceed daily local police and fire responsibility."CCR Title 19, § 2401. Widespread communications outages are emergencies that have triggered Mendocino and Humboldt Counties to activate their Emergency Operations Center under SEMS.

During the outages in Mendocino County in 2014 and 2015, no carrier formally notified public safety officials of the scope or likely duration of the outage. Once the Mendocino County Sheriff's Office of Emergency Services found out about the widespread communications outages on September 3, 2015, they activated the County emergency operations center. Mendocino County Sheriff Allman, charged by California law with responsibility to respond to the emergency created by the communications outage, had to choose between sending his deputies to check on jails operating without the ability to communicate from one wing to another, or to courthouses transferring prisoners for trials, or to other critical facilities. Sheriff Allman deployed deputies to fire departments and key intersections to assist those who needed help but lost access to 9-1-1. County Emergency Services coordinated with local Ham Radio operators to act as the emergency dispatch for hospitals and other emergency calls. Knowledge about an outage is critical to emergency incident response, planning, and preparation.

During California's five-year drought, public safety officers had to face fire lines again and again and often resorted to "old-school" methods to announce evacuations when modern communications networks failed. During the 2013 Rim Fire in Tuolumne County, the 2015 and 2016 Valley and Clayton fires in Lake County, and the 2015 Butte Fire in Calaveras County, California, local public safety officers used bull horns to announce evacuations as they drove through neighborhoods when lines burned, transport facilities were out, or reverse 9-1-1-type services were ineffective. Several California counties, including Lake County, are debating bringing back sirens as more reliable evacuation signals.

The FCC's role is not to deploy county deputies in response to a communications outage to check on jails or people who may need emergency help. Neither will the FCC

send personnel to announce evacuation using bull horns because the telephone system is down. The FCC is responsible for taking steps to ensure that all Americans have safe and reliable communications services, and outage reporting under NORS is key to executing that responsibility. Likewise, the CPUC under California state law, is responsible for ensuring that all Californians have safe, reliable service at just and reasonable rates, CA PU Code 451, high-quality telecommunications services, CA PU Code 709, and that carriers do not maintain unreasonable differences as to "service, facilities…between localities or between classes or service." CA PU Code 453. The CPUC may "inspect the accounts, books, and documents of any public utility, under CA PU Code 314. NORS reporting is important information for the FCC's execution of its duties to ensure reliable service, and many states also rely on NORS data to identify reliability and safety issues.

The FCC NORS FNPRM asks for comment on a wireless outage reporting standard based on a "clear geographic criteria, such as a county-based threshold." California has some very large counties. San Bernardino County measures 20,164 square miles, ranks in size just below West Virginia, and is twice the size of the next largest state, Maryland.[1] Riverside County ranks in size between the State of Massachusetts and the State of New Jersey, while Mendocino and Humboldt Counties rank in size just below the State of Connecticut.[2] Outage reporting based on a county, a measurement equivalent to or greater than many U.S. states, would leave many outages unreported. While California has three of ten largest cities in America, Los Angeles, San Diego, and San Jose, 95% of California's landmass is rural.

If the FCC were to gather data on outages affecting one-third of the cell sites in an area, whether such an outage would be reportable depends on the chosen area boundaries. The transport path for backhaul to cell sites in a given area would also determine whether one-third of the cell sites would likely be affected by an outage. Likewise, whether that threshold is met would depend on whether a fire, flood, or other disaster, or a software issue affected each of those cell sites.

Another alternate is to consider reporting obligations based on a lower threshold of user minutes, reflecting smaller rural populations. The U.S. Census divides the U.S. population into urbanized areas of 50,000 people or more, urban clusters of 2,500 to 50,000 people, and rural areas below 2,500 people.[3] Under the FCC NORS 900,000 user minute reporting threshold, 2,500 customers would have to be out of service for six

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[1] California State Association of Counties, Square Mileage by County, http://www.counties.org/pod/square-mileage-county; The US 50, Fast Fact Study Guides (State Areas), http://www.theus50.com/fastfacts/area.php.
[2] *Id*.
[3] U.S. Census Bureau, Urban and Rural Classification, https://www.census.gov/geo/reference/urban-rural.html.

hours to hit the NORS reporting threshold. An outage of 300,000 user minutes would have to last two hours to be reportable if it affected a population of 2,500, and for five hours for a population of 1,000. In an urban cluster with 10,000 lines, the outage would have to last 30 minutes to be reportable under a 300,000 user minute threshold.

While city sizes vary, an outage potentially affecting 5,000 people, half of a large urban cluster, is commensurate with the size that may trigger the duty of a County to communicate and coordinate incident response under California's emergency management system. At a reporting threshold of 300,000 user minutes, an outage affecting 5,000 people would be reportable in one hour.

I commend to the FCC the recommendation I made about outage reporting in the Proposed Decision (PD) in the *CPUC Call Completion and Call Access OII*. The PD proposes Carriers of Last Resort (COLRs) who have an obligation to serve under California law report to the CPUC under CA PU Code 314 outages of 300,000 user minutes or more. Of course, the CPUC retains the ability to ask for other data under CA PU Code 314 including lower levels of outages. Gathering data on outages of 300,000 user minutes or more is a good starting point to identify outage patterns. Data analysis will reveal whether outages track rural, urban cluster, or urban population centers, transport facilities, physical network deployments, software design, service issues, or other factors.

The capacity of OC3 outages to cause widespread landline, wireless, and Internet failures makes reporting the downstream consequences of OC3 outages imperative. As stated in the CPUC's August 26, 2016 comments, "The FNPRM correctly observes that 'broadband networks' interrelated architectural makeup renders them more susceptible to large-scale service outages' and that '[t]his new paradigm of larger, more impactful outages suggests that there would be significant value in collecting data on outages and disruptions to commercial broadband service providers.'"[4] Requiring reporting of outages affecting interconnected communications networks is key to protecting public safety and ensuring service reliability.

Sincerely,

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Catherine J.K. Sandoval
Commissioner
California Public Utilities Commission

[4] CPUC Comments on Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications, PS Docket No. 15-80, p. 4-5 (filed Aug. 26, 2016)(citing, *See e.g.*, Technology Transitions et al., GN Docket No. 13-5 et al., Report and Order etc., 30 FCC Rcd 9372 (2015) at ¶ 1; see also 47 USC § 151(1)).

cc: FCC Chairman Wheeler
FCC Commissioner Clyburn
FCC Commissioner Rosenworcel
FCC Commissioner Pai
FCC Commissioner O'Reilly
FCC Homeland Security Director Simpson
FCC Enforcement Bureau Director Foss
CPUC Chairman Picker
CPUC Commissioner Florio
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